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Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 115



FOREIGN BROADCAST INFORMATION SERVICE

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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WORLD COMPUTER CONGRESS TO MEET IN TOKYO, MELBOURNE

Canberra THE AUSTRALIAN in English 12 Feb 80 p 20

[Text] ASHLEY Goldsworthy is urging Australia's computer people to regard 1980 as the Year of the Congress.

"The reason is, of course, that in October the 8th World Computer Congress will be held in Melbourne," he said.

"The first week of the congress will be held in Tokyo from October 6-9 and the second week in Melbourne from October 14-17."

As Mr Goldsworthy, who is chairman of the Australian Organising Committee, pointed out, this is the first time that IFIP (The International Federation for Information Processing) has held its triennial congress in the Southern Hemisphere.

Also for the first time, the congress is being held in two sites instead of one. This has obviously created additional problems for the Japanese and Australian organisers but Mr Goldsworthy said arrangements have proceeded very smoothly and congress plans are well advanced.

The congress will be accompanied by an exhibition of computers and related equipment in both sites - Tokyo and Melbourne.

The Australian exhibition has apparently exceeded all expectations. The original plan was to have an exhibition covering about 60,000 square feet but this was booked out immediately, so another 30,000 square feet was offered.

This, too, was snapped up straight away and yet another 30,000 square feet was offered.

"Even the most optimistic of the or-

ganisers were amazed when this was just as readily taken by exhibitors," Mr Goldsworthy said.

"The keenness and enthusiasm of suppliers and others to take part in the exhibition has been very encouraging and gratifying."

In the next few weeks "early bird" registration forms will be sent to potential delegates all around the world.

All members of the Australian Computer Society will receive a preliminary registration form which will give a few details about invited keynote speakers, the cost of registration and attendant social activities.

Mr Goldsworthy said early registration has the benefits of a reduced registration fee and the first choice of accommodation.

"I am extremely confident that there will be a very large contingent of overseas visitors which, together with the Australian delegates, will make the 1980 congress the most successful IFIP Congress yet held," he commented.

"I urge all Australian computer practitioners who want to grasp what could be the only opportunity they will have to take part in such an international gathering to register early to ensure their attendance and to guarantee that they will receive regular news of congress developments."

"Computer conferences inevitably tend to have a certain sameness about them. However, the 8th World Computer Congress promises to be different from those most Australians have had an opportunity to participate in," he added.

BRIEFS

CHINA RECEIVES BRITISH NEWSCAST--Beijing, 24 Mar--According to a report from London, the British Visnews Television News Agency recently announced that the agency has entered into a contract with the Chinese Central Television Station to transmit televised news to China through satellite transmissions. A spokesman for the agency said that this was the agency's first contract with China on communications satellite transmissions. According to the contract, beginning 1 April the Chinese Central Television Station will receive a 10-minute London-originated television news program on a daily basis. [Text] [OW260525 Beijing XINHUA Domestic Service in Chinese 0400 GMT 24 Mar 80 OW]

BULGARIA, KUWAIT, YEMEN AGREEMENTS--Al Kuwait, March 27 (BTA)--Today in Al Kuwait a cooperation agreement was signed between the television companies of Bulgaria and Kuwait. For Bulgaria the agreement was signed by Mr Ivan Slavkov, director general of the Bulgarian television and for Kuwait, by Mr Saadun Al Djassem, deputy minister of information. Before arrival in Kuwait, Mr Ivan Slavkov was on a visit in the People's Democratic Republic of Yemen, where he has received by Prime Minister Ali Nasir Muhammad. In Aden were signed a cooperation agreement and protocol between the television companies of the two countries. [Text] [AU272001 Sofia BTA in English 1904 GMT 27 Mar 80 AU]

'BAKHTAR'-'TASS' LINK--A direct bilateral link between the Afghan News Agency, BAKHTAR and TASS has been opened. The Afghan press notes that the opening of the direct link serves as another manifestation of good-neighborly all-round cooperation between the two countries. [Text] [LD271124 Moscow Domestic Service in Russian 1000 GMT 27 Mar 80 LD]

DPRK-GUYANA COOPERATION--Pyongyang, March 12--An agreement on cooperation in radio and TV broadcasting between the governments of the Democratic People's Republic of Korea and the Cooperative Republic of Guyana was signed in Georgetown on February 29, according to a report. It was signed by the DPRK ambassador to Guyana and the minister of information of Guyana. [Text] [Pyongyang KCNA in English 0356 GMT 12 Mar 80 SK]

USSR TV PROTOCOL WITH FINLAND--A protocol has been signed in Helsinki providing for cooperation between Finnish broadcasting authorities and the USSR Committee for Television and Radio Broadcasting. It is proposed to exchange films and broadcasts, produce joint programs and organize coverage of the Olympic games in Moscow. [Moscow Domestic Service in Russian 2004 GMT 13 Mar 80 LD]

TELECOMMUNICATIONS CONFERENCE--The Permanent Board of the Inter-American Telecommunications Conference [Conferencia Interamericana de Telecomunicaciones] opened its 10th annual meeting today at the San Martin cultural center. The meeting is being attended by representatives from Brazil, Chile, the United States, Mexico, Peru, Uruguay, Venezuela and Argentina. [Buenos Aires Domestic Service in Spanish 1600 GMT 3 Mar 80 PY]

CSO: 5500

BRIEFS

'XINHUA,' 'KYODO' SIGN MEMORANDUM--Tokyo, March 27 (XINHUA)--KYODO News Service and the XINHUA News Agency signed here today a memorandum on the joint use of a voice-grade leased circuit between Tokyo and Beijing. The signing took place at the KYODO head office between Takeji Watanabe, president of KYODO and Zeng Tao, head of the XINHUA News Agency. Put into trial use last October, the Tokyo-Beijing exclusive press circuit has been operating well. The two sides agreed to put it officially into use as from April 1. The circuit makes it possible to send and receive news articles by high-speed facsimile. It can also transmit photographs and voice communications. Zeng Tao arrived here yesterday for a visit to Japan, leading a delegation of the XINHUA News Agency. The same evening, the Chinese guests were honoured at a reception given by KYODO President Takeji Watanabe. [Text] [OW271724 Beijing XINHUA in English 1606 GMT 27 Mar 80 OW]

TAIWAN-PHILIPPINES UNDERSEA CABLE--Taipei, 8 Mar--An undersea cable linking Taiwan and the Philippines will be opened March 28, according to the Directorate General of Telecommunications (DGT). Construction of the 1,025-kilometer cable, which can carry 480 messages, began in March 1978 at a cost of \$19 million. The first national undersea cable linking Taiwan and Okinawa was opened last July. The 680-kilometer cable, with a capacity of 480 messages, was built at a cost of \$3 million. [Text] [Taipei CNA in English 1340 GMT 8 Mar 80 OW]

CSO: 5500

OPPOSITION SPOKESMAN SCORES PLANS FOR DOMESTIC SATELLITE

Canberra THE AUSTRALIAN in English 14 Feb 80 p 11

[Article by Ted Innes, ALP spokesman on post and telecommunications:
"Satellite System Financial Disaster"]

[Text]

THE FEDERAL Government has committed itself in principle to an Australian telecommunications satellite system on the basis of a truncated and biased inquiry.

The satellite taskforce was established in 1977 just 38 days after the Packer company, Publishing and Broadcasting Ltd, presented a pro-satellite submission to the Government.

At the time a Telecom inquiry, ongoing for some years, was still deliberating, it would have seemed logical to hand the Packer submission to this inquiry.

The Telecom inquiry subsequently found that a satellite system could not be economically justified.

The taskforce was given a hopelessly inadequate six months to report. Despite minor extensions the report was rushed, and opposing submissions given inadequate time to prepare their cases.

The Packer submission, by an American RCA employee, Donald Bond, was prepared without restrictions.

There are many disturbing features of the Government decision. One, the satellite will be controlled by a new authority, despite Telecom's charter as the common carrier in telecommunications.

Telecom will have to buy transponder space on the satellite for services it now provides through its \$6000 million of terrestrial equipment.

The future of that equipment is uncertain.

Two, the satellites financial basis is as solid as jelly. The Government report bases its financial guesses on a low-powered satellite, although indications are much more powerful and expensive equipment will be necessary for the functions envisaged.

Even so, the estimated cost is \$134 million, but many estimates put it much higher.

We all know Government projects never meet their estimates anyway.

The report admits it will be a drain on the public purse for many years.

In addition, the satellites burn out in seven or eight years and the capital cost has to be borne again at inflated values.

All this despite the \$6000 million of existing equipment which serves this country adequately.

The major official argument for the satellite is based on

its alleged benefits to the outback.

We are talking about a few thousand people, and one section of the report eulogises benefits for 0.002 per cent of the population.

Yet there are very few benefits the terrestrial system will not provide within the time scale envisaged. And what many people who believe they will benefit are not being told is that connection to television at outback stations will exceed \$1,000 a homestead, and telephone connection will be about \$20,000 a telephone.

If the satellite is to provide outback telephone services, it will be powerful and therefore much more expensive. A much more expensive system will be necessary.

Whatever benefits there may be to the outback could be provided at far greater cost-benefit via the existing Intelsat satellite system in which Australia is a partner.

One insult to our intelligence is the report proposes the first generation satellites be financed by the public purse. Yet it recommends that if and when the system begins to be profitable private capital be invited to invest in it.

In other words the taxpayers bear the losses, and hand the profits to private interests.

Labor would launch a satellite only when we were convinced it would benefit all Australians.

AUSTRALIA

INDEPENDENT ETHNIC BROADCASTING CORPORATION PLANNED

Ministers Announce Plans

Canberra THE AUSTRALIAN in English 25 Jan 80 p 3

[Text]

AN Independent Multicultural Broadcasting Corporation will be set up to provide a wide range of ethnic television and radio services throughout Australia.

The corporation will be encouraged to operate commercially and will replace the Special Broadcasting Service, the National Ethnic Broadcasting Advisory Council and State ethnic broadcasting advisory committees.

This was announced yesterday by the Minister for Post and Telecommunications, Mr Staley, and the Minister for Immigration and Ethnic Affairs, Mr Macphie.

They said the corporation would be partly financed by taxpayers but would try to cover costs with advertising.

It would try alternative forms of advertising, including spot advertisements and sponsorship of programs.

The corporation will be a statutory authority responsible to the Minister for Post and Telecommunications.

In deciding to establish the corporation, the ministers said, the Government had largely accepted the recommendations of the second report of the Ethnic Television Review Panel.

An implementation task force would be set up promptly to oversee the establishment of the corporation.

The task force would be expected to arrange for the production and presentation of programs by October, initially in Sydney and Melbourne, with a target of 35 hours' viewing a week.

Mr Macphie also announced that an Institute of Multicultural Affairs would be headed by Melbourne solicitor, Mr Frank Galbally.

Mr Macphie said it would have a major research and community education role.

Cost, Financing Described

Sydney THE SYDNEY MORNING HERALD in English 25 Jan 80 p 3

[Report by Susan Molloy, Ethnic Affairs Reporter]

[Excerpt] The Federal Government will spend \$2.7 million in the next six months to establish a permanent ethnic broadcasting service.

The Minister for Post and Telecommunications, Mr. Staley, and the Minister for Immigration and Ethnic Affairs, Mr. Macphree, announced yesterday the establishment of a statutory, independent body to run ethnic broadcasting.

The Independent and Multicultural Broadcasting Corporation would provide permanent

multilingual services in Sydney and Melbourne in October.

Government finance would be supplemented by some commercial involvement and sales of programs overseas.

Cabinet approved a report on ethnic television by a Melbourne lawyer, Mr. Frank Gabbaly, earlier this week. A further report will be submitted to the Government in March.

Mr. Macphree said he did not expect large amounts of advertising support at the beginning of the ethnic television service.

It is expected that ethnic television will eventually be broadcast only on a separate Ultra-High Frequency channel.

The Ministers said the corporation would be given the same editorial discretion as other broadcasters to present political and controversial material, a discretion denied the Special Broadcasting Service which it replaces.

'Commercials' Fear

Melbourne THE AGE in English 31 Jan 80, Supp., p 1

[Recept] The Federation of Australian Commercial Television Stations (FACTS) has attacked the Federal Government's decision to set up the Independent Multicultural Broadcasting Corporation.

The Federal Director of FACTS, Mr. James Malone, said this week that the decision emphasized "the confusion and lack of planning in the government's mind about the objectives and structure of the broadcasting system in Australia.

"The creation of the IMBC will not benefit minority ethnic groups, it will fragment the development of the broadcasting system, create the distinct possibility of conflicting standards and objectives for broadcasters and cost the community an enormous amount per viewer or listener of the IMBC," Mr. Malone said.

"FACTS considers that the IMBC will do nothing that could not have been achieved at a lower cost through a combination of the ABC and the public broadcasting sector."

END: 5501

AUSTRALIA

BRIEFS

ETHNIC RADIO CHANGE--Ethnic radio 3EA has begun transmitting on a new frequency and with increased power. The switch to 1224 kHz was made last Saturday and the station's transmitting power has risen from 500 watts to 5000, giving it clear reception throughout Melbourne. [Excerpt] [Melbourne THE AGE in English 31 Jan 80, Supp., p 1]

TRIAL BROADCASTS--A Post and Telecommunications Department "radio station" that drew a phenomenal response from Melbourne FM listeners in 1978 has returned to the airwaves. The "station", which is broadcasting music between 8 am and 11 pm daily, has been established as an extension of the 1978 tests which were made to determine how closely two broadcasting sources could be brought together on the FM band. A department spokesman said the main aim of the test transmission was to study problems which had not been resolved in the last tests. These were related to quite technical aspects including polarisation, intermodulation and interference with other forms of equipment. He said the tests, which were expected to continue for about six months, had begun early last week with transmission on 104.7 MHz. This frequency would vary during the test period and at times there would be a second transmission, a tone signal, on another frequency. [Excerpt] [Melbourne THE AGE in English 7 Feb 80, Supp., p 3]

CSO: 5500

INDONESIA: SECOND GENERATION PALAPA SATELLITE

Jakarta PELITA in Indonesian 22 Dec 79 p 6

[Article: "Second Generation Palapa Satellite to Cost More Than \$79 Million"]

[Excerpts] A contract for the construction of the second generation Palapa satellite was signed in Jakarta Thursday afternoon [20 December] by the Principal Director [Direktur Utama] of the Public Telecommunications Enterprise [Perum Telekomunikasi], Dr Willy Moenandir Mangoendiprodjo, and the Vice President of Hughes Aircraft Company, Mr Paul S. Visser.

The contract covers space equipment consisting of the Palapa B1 and B2 satellites, at a cost of \$74,505,480, and ground equipment in the form of control instrumentation, modification of the ground station, instruction and training, as well as spare parts costing \$5,388,470, so that the total amounts to \$79,893,950. The total purchase does not include the cost of launching and insurance. In the bidding which was held by the Public Telecommunications Enterprise [Perumtel] there were four commercial communications satellite companies which took part in presenting offers, including FACC (Ford Aerospace and Communication Corporation of America). However, on the last day for the submission of bids it turned out that only FACC and HCI [Hughes Communications Incorporated] submitted price tenders, while TRW and RCA said they were withdrawing. After an evaluation and examination were completed, the Minister of Communications determined that HCI was the winner of the second generation Palapa tender.

As is known, the useful life of the first generation Palapa satellite (Palapa A1 and A2) will end in 1983 and 1984. For that reason, to ensure the operational effectiveness of the Palapa SKSD [Domestic Satellite Communications System], the construction of a follow-on satellite is needed (Palapa B1 and B2), which is planned to be launched in 1983. The construction of the second generation Palapa satellite must be undertaken as of now, recalling that the manufacture of a satellite requires a normal period of 30 months.

The Principal Director of Perumtel, Dr Willy Moenandir, in a short speech stated that the first generation Palapa satellite, whose construction was undertaken by HCI several years, from the technical and operational point of view has functioned easily and has not given rise to complaints.

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

SHAANXI SHORTWAVE ANTENNA--Xian, 26 Mar--Recently, the Shaanxi International Telecommunications Station successfully designed and manufactured an unipolar double-feed log-periodic antenna [dan ji shuang kui dui shu tian xian 0830 2817 7175 7432 1417 2422 1131 4848] suitable for shortwave communications in China. At present, the antenna for long-distance trunkline shortwave communications in China is a fixed type antenna as high as several dozens of meters to more than 100 meters. Three trucks are needed to move this type of antenna. With a height of only 13 meters and a weight of 200 kg, the newly developed unipolar, double-feed log-periodic antenna can be rotated freely and carried away by a cart. Also, the new antenna is low in production costs and easy to install, maintain and conceal. It is suitable for use in both peacetime and war. [Text] [OW310826 Beijing XINHUA Domestic Service in Chinese 0303 GMT 26 Mar 80 OW]

CSO: 5500

ELECTRONIC TELEPHONE EXCHANGE SYSTEM ENSAD DESCRIBED

East Berlin FERNMELDETECHNIK in German Vol 19 No 5, Sep-Oct 79 pp 165-170

[Report by H. Stuerz, Chamber of Technology, East Berlin; report from the Institute for Communications Technology, Research Center of the VEB Communications Electronics Combine: "Electronic Telephone Exchange System ENSAD." Please see elsewhere in this JPRS issue for a translation of an article describing the operation of a local central telephone exchange of this system]

[Text] At present, electromechanical telephone exchange systems predominate on a worldwide basis. Their status has been achieved over many decades and is distinguished by high quality and performance. In spite of the 450 million existing telephone connections, the majority of the work remains to be done in the coming years and decades. It is anticipated that world telephone density will increase from a present 10 percent up to about 100 percent. This growth will occur over a longer period which will be characterized by the coexistence of electromechanical and new electronic telephone exchange systems.

In the GDR the proven coordinate switching systems are available. But at the same time a new method is being pursued with the introduction of the electronic telephone exchange systems ENSAD.

The uniform communications system for analog and digital exchange (ENSAD) is the result of joint work by research centers and factories of the GDR and USSR. ENSAD is an attempt to offer the user more convenience and to rationalize all administrative tasks. ENSAD is designed so that in connection with a computer at a central operations and repair center (BIZ), all important data of operation can be automatically acquired, processed and used to control operation of the network. In addition, the ENSAD centrals can be used without connection to the operations and repair center computer. This will be the case primarily when individual ENSAD centrals are incorporated into an existing network or if there are economic reasons against the buildup of a BIZ.

ENSAD is therefore an extremely adaptable system which on the one hand takes into account the different network conditions and on the other hand, it is prepared not only for present, but also for future administrative demands due to the extensive incorporation of electronic data processing (EDP).

1. System Overview

ENSAD is a telephone exchange system offering the user and operator a number of new performance characteristics owing to its programable control complex. The pronounced modular character of the functional groups and software permit the buildup of different centrals which are optimally adapted to the prevailing use conditions and the needed system size.

There are central exchanges for both the local level as well as for long-distance levels. The local centrals have available a two-wire space distributed coupling field and the long-distance centrals are equipped with a four-wire coupling field.

It is emphasized that even the small central exchanges have the extensive performance characteristics for telephone users and administration. This is achieved partly by the use of remote controlled central exchanges. This remote control is made possible by a managing central by means of special control channels (Figure 1).

An order from the central control complex to the peripheral exchange equipment of the controlled central station passes along the route designated by arrows. Information about the status of the facilities and controlled central station moves in reverse direction to the central control complex. Control information can be transmitted over low frequency (LF) lines. In case PCM transmission systems are used to transmit spoken information between controlling and controlled central, these systems also perform transmission of control signals.

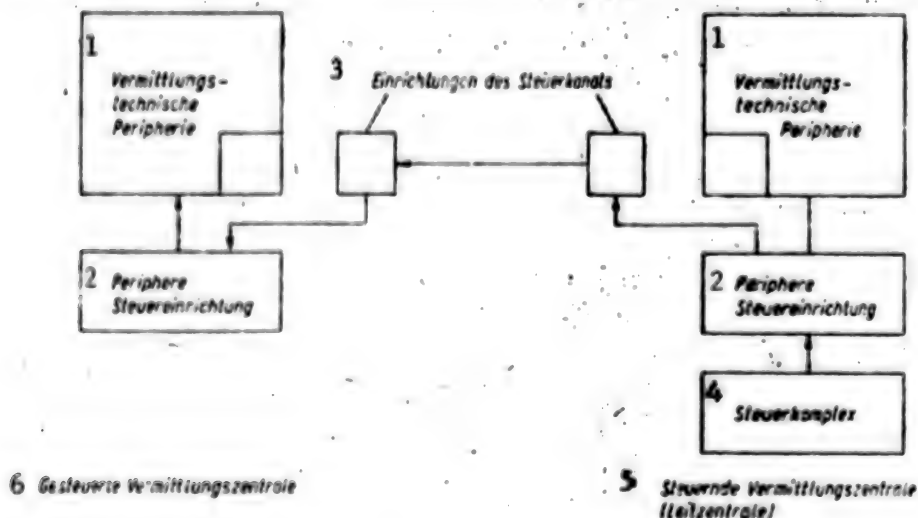


Figure 1: Principle of Remote Control

Key:

- | | |
|----------------------------------|--------------------------------|
| 1. Peripheral exchange equipment | 4. Control complex |
| 2. Peripheral control equipment | 5. Controlling central |
| 3. Control channel facilities | 6. Controlled central exchange |
| exchange (managing exchange) | |

Figure 2 illustrates this system. In the PCM facilities spoken and control information are separated. The thirty digital speech channels are compartmentalized spacially by the managing central and the space-distributed coupling field receives the spoken information. If a circuit is to be reached which is also designed as a PCM channel, then the digital signals are transmitted directly through the space distributed coupling field (Figure 2 route 1).

After connection of the digital channel to a low-frequency channel, the digital signals are converted into low-frequency signals and vice versa (Figure 2, route 2). The digital signal transits the coupling field, is demodulated, transits the coupling again as a LF signal and reaches the LF circuit. Here it is important that both the PCM as well as LF signals be exchanged by one and the same coupling field and that no different designs are needed for the central control or software (e.g. route searches).

Completed projects show that at present the fraction of PCM channels available for exchange at the local level is significantly smaller than that of the LF circuits. The ratio will change in the course of time. Such a trend can only be taken into account by retrofitting some equipment. Thus, an exchange system has been created which considers the use of PCM transmission systems and which permits the realization of economic projects by maximum employment of standardized equipment. PCM transmission systems can also be used between two ENSAD centrals without the need of a remote control. In this case they are used with classical PCM transmission converters.

For later use of ENSAD in a digital comparison field, a central exchange is being prepared which has an electronic connecting field for the time discreet exchange of PCM signals in the known manner. Such employment however, in the local network, will be rare in the future and will be concentrated primarily at local junction centrals.

In accordance with the demand, the assortment of local central exchanges (Table 1) will be continually expanded and improved. The organization of user lines or connecting lines will be selected so that economically optimum central stations will be available for all occurring capacity ranges.

Using the example of an assumed network (Figure 3), the relationship between the central exchanges and local networks are illustrated in simplified form. The connecting fields of the three basic types of central exchanges (controlling exchange, remote controlled exchange, central exchange without remote control potential) differ primarily by the number of connecting lines and thus by the amount of equipment. The central and subcentral control facilities can be expanded in stages. The majority of components in the various types of central exchanges is standardized. It is possible for the corresponding centrals to operate independently or in a network of remote controlled ENSAD central exchanges.

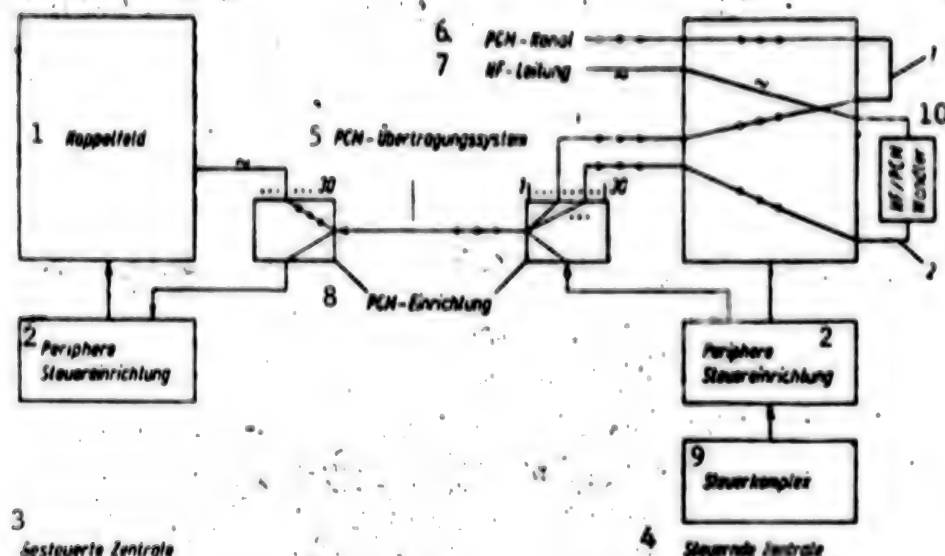


Figure 2: Remote Control and Exchange of PCM Channels

Key:

- | | |
|---------------------------------|----------------------|
| 1. Coupling field | 6. PCM channel |
| 2. Peripheral control equipment | 7. LF circuit |
| 3. Controlled central | 8. PCM facility |
| 4. Controlling central | 9. Control complex |
| 5. PCM transmission system | 10. LF/PCM converter |

Various central exchanges are remote controlled by central 1 either by PCM tracts (central 2) or by LF circuits (central 3). For safety reasons the controlled channels are doubled. This measure can be omitted if operation of the central can be maintained by a cross-relation to a second central upon failure of the corresponding circuits. Such a case is illustrated by centrals 4 and 5. A doubling of the control channel at smaller centrals can also be omitted if they are equipped with a failure control mechanism to maintain internal traffic for limited operating potentials (central 6). Central 7 is a concentrator.

The central exchanges can also operate independently, i.e. outside of the integrated system as is the case for centrals 8-11. It is also possible to use the centrals without BIZ. This mode of operation is illustrated by separating (character \approx) the connection between the control complex or the independent control facility and the BIZ.

a	Lfd. Nr.	Anzahl der Teilnehmer- leitungen (a) bzw. Ver- bindungsleitungen (b)	b	c	Bemerkungen
	1	64 bis 256	d	a e	Ferngesteuerte Zentrale
	2	128 bis 1000		a e	Ferngesteuerte Zentrale
	3	256 bis 2000		a e	Ferngesteuerte Zentrale
	4	512 bis 4000		a	
	5	1000 bis 6000		a f	Steuernde Zentrale, können die
	6	4000 bis 16000 (22000)		a	Zentralen 1 bis 3 fernsteuern
	7	256 bis 1000		a g	ohne Fernsteuermöglichkeit
	8	2000 x 2 bis 6000 x 2		b h	Ordnungszentrale

Table 1: Local ENSAD Centrals

Key:

- | | |
|--|---|
| a. Number | e. Remote controlled central |
| b. Number of user lines (a) or
connection lines (b) | f. Controlling centrals can remote
control central exchanges 1-3 |
| c. Comments | g. Without remote control possibility |
| d. To | h. Local junction central |

2. Medium Capacity Local Central Telephone Exchange

2.1 Overview

The principles illustrated below are typical for the entire ENSAD system. The central under discussion is suitable for connection of 512 to 4096 user connections. A maximum of 64 communication facilities at other central exchanges at various communication levels can be controlled. The entire communications value of user and connecting lines is 600 to 800 Erl regardless of the fraction of internal and external traffic.

The average communication value is 0.1 Erl depending on the user connection, whereby the amount of traffic for an individual participant can deviate severely from the average value.

If additional remote controlled central exchanges are connected to this central, then the fraction of traffic to the centrals must be considered.

2.2 Structure of the Central Exchange (Figure 4)

The coupling field consists of the two-stage subscriber connector AB and the two-stage group connectors CD, EF and GH. Various types of sets can be connected to the coupling field. The following are connected to the subscriber connector via subscriber sets:

- subscriber connection lines with touch tone or dial telephones
- two-party lines
- pay telephones
- secondary central lines (without the possibility of direct dial)
- connection lines for operators

At the E-side of the group link EF, the sets for generating connections to other central exchanges of the existing electromechanical exchange systems and ENSAD are connected.

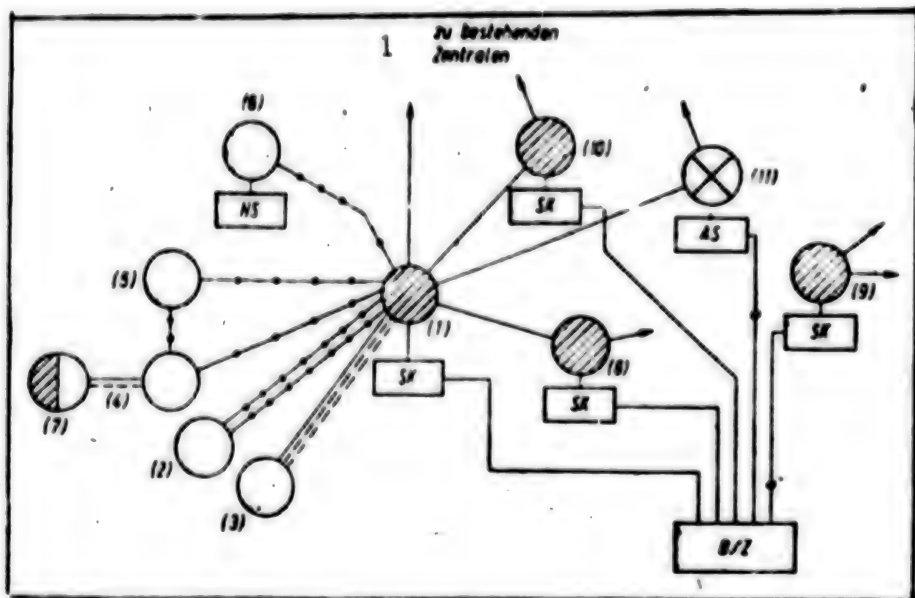
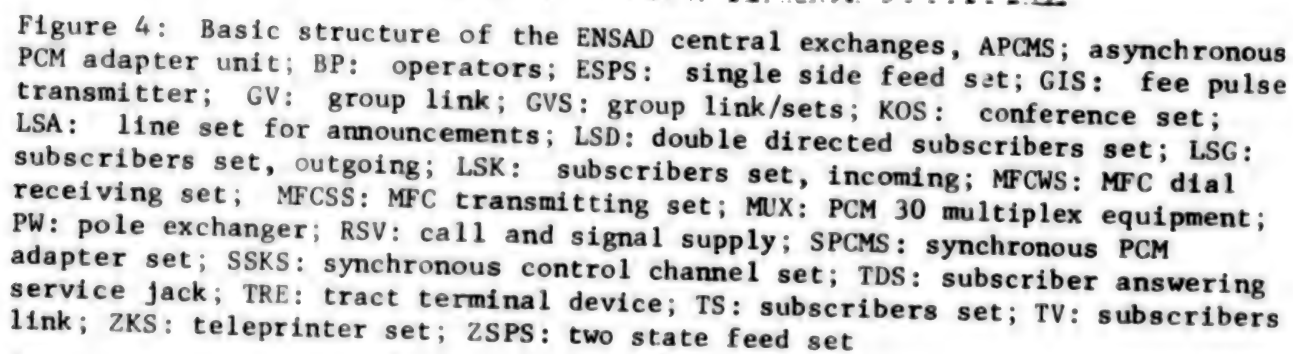


Figure 3: ENSAD Network. SK: Control Complex; AS: Independent Control Mechanism; HS: Fault Control Mechanism; BIX: Operations and Repair Center; 1-11 Central Exchanges

Key:

1. To existing central exchanges

Other independent ENSAD centrals or remote-controlled ENSAD centrals using centralized control channels can be achieved by means of PCM tracts and analog channels (LF, CF). PCM adapter sets or control channel sets (SPCMS 1, SSKS 1, APCMS 1, ZKS 1) assume the adaptation. By means of outgoing, arriving or double-directed subscriber sets (LSG, LSK, LSD) with two, three, or six-wire design, existing centrals of the network including secondary centrals with direct dialing are achieved. It is also possible to incorporate other ENSAD centrals in this manner. The subscriber sets are passive with regard to evaluation of signals to be received and with regard to generation of transmitted signals. The received signals are evaluated via the peripheral control equipment by the control complex.



10

Key:

- | | |
|--|---------------------------------|
| 1. Other ENSAD control areas via | 6. External duty sets |
| 2. Remote control ENSAD via | 7. Test and control equipment |
| 3. Automatic announcement mechanisms | 8. Peripheral control equipment |
| 4. Existing centrals, changed number interception and service codes, independently controlled ENSAD centrals | 9. Control complex |
| 5. From and to the facilities | 10. PCM tract, LF, CF line |
| | 11. PCM tract, LF line |

By means of a link (GVS) the needed external duty sets are made available to the passive subscriber sets for the corresponding phase of link assembly. In addition, EF equipment can be connected to the group link to conduct conference calls or to achieve automatic announcement services. The equipment connected to the D or H-side of the CD or GH links serves to build up or create various potential links. If other ENSAD ranges are achieved via PCM tracts, then an asynchronous PCM adapter unit (Figure 4 APCMS 1) takes over time and space conversion as an adaptation to the coupling field. At the same time, it assumes incorporation of information which is to be exchanged with the other ENSAD control range. If analog character channels are used between two controlling ENSAD centrals, then the character channel set (VKS 1) is switched on.

A remote controlled central exchange is achieved via the synchronous PCM adapter set (SPCMS 1). It takes over time and space conversion, control information input and output and synchronization. If remote controlled centrals are created by means of LF lines, a control channel set (Figure 4, SSKS 1) assumes the task of information exchange.

2.3 Patch Bay

The main element of the patch bay is the ENSAD coupler consisting of dry reed contacts with magnet bracket. It is organized into two levels: the magnetic system and the dry reed contact.

The coupler design is appropriate to the demands of modern mass production technology. It includes:

--simple technology, extensive automation of manufacture of all individual components

--independent, parallel fabrication of individual components and assembly into component groups

--a small number of individual parts

--low accuracy requirements in manufacture and assembly of the coupler

The coupler groups of the patch bay of the ENSAD centrals are built up with this coupler. In the subscribers link (TV) coupler groups measuring 32×16 are used. On the basis of this coupler group, the following concentrations are possible in the subscriber link: 16×16 (with a concentration of 1:1) 32×16 (2:1), 64×16 (4:1), 128×16 (8:1).

The subscriber link can be expanded in stages of 256 subscriber connections of various concentration. The group link consists of coupling groups 64×64 ; it can be expanded in stages of 256 line or intermediate line connections.

2.4 Control

The control concept permits the build up of control facilities which permit an economic solution for the various sized centrals. In addition, a high degree of equipment and program standardization is achieved.

The required high reliability of control facilities is achieved by a specific diagnostic and fault program and by redundancy of the important equipment. Figure 5 shows the structure of the control as used for operating the medium capacity central outlined above (4096 subscriber circuits). Both central processors ZPR 0 and ZPR 1 operate synchronously. They are connected together by a comparator which checks the results of information processing after every work pulse for equivalence and generates an interrupt signal in case of a difference, which causes disconnection of both ZPR and the start of the diagnostic program. The memory unit is used to store programs, operative and constant data.

One-to-four peripheral control units are obtained by means of the connection control to the technical exchange periphery. Data exchange takes place by inface transmitters and receivers. A peripheral control unit operating in double load distribution serves a group of up to 1024 subscriber lines and proportionate connecting lines. The equipment periphery and the BIZ are reached via a connection control. The capabilities of the control complex can only be utilized by an extensive, modular system of program input.

2.5 Exchange Operation of PCM Channels

The ENSAD centrals can also exchange PCM signals with their spacially divided two-wire coupling field (Figure 6). This performance characteristic results in a very flexible system with regard to the trunk switching scheme. Of the PCM adapter sets (SPCMS) shown in the left and right of Figure 6, only one channel is illustrated. The functional groups of the SPCMS which perform the time/space conversion are not illustrated. $U_{x,e}$ is the PCM word assigned to time position x of a PCM system. After entering this word in the circulating memory, the word is fed to the coupling field ($U_{x,a}$) at 125 μ s intervals via gate one. After transitting the four-stage, space divided field, it is picked up on the B-side ($U_{y,x}$) at time T_y which corresponds to channel y of another PCM system, by opening gate 2. The same process takes place from B to A. Thus we see that through the constant feed of PCM words on both sides, discrimination between different time positions is possible. The

correct time assignment takes place by the signals T_x and T_y . For instance, channel y of the B-side selects the needed word through its signal T_y assigned to the time position y from the offerings of channel x on the A-side. During transfer of the word $U_{x,a}$ to the B-side by opening of gate 2, the transmit side of channel y ($U_{y,a}$) is blocked.

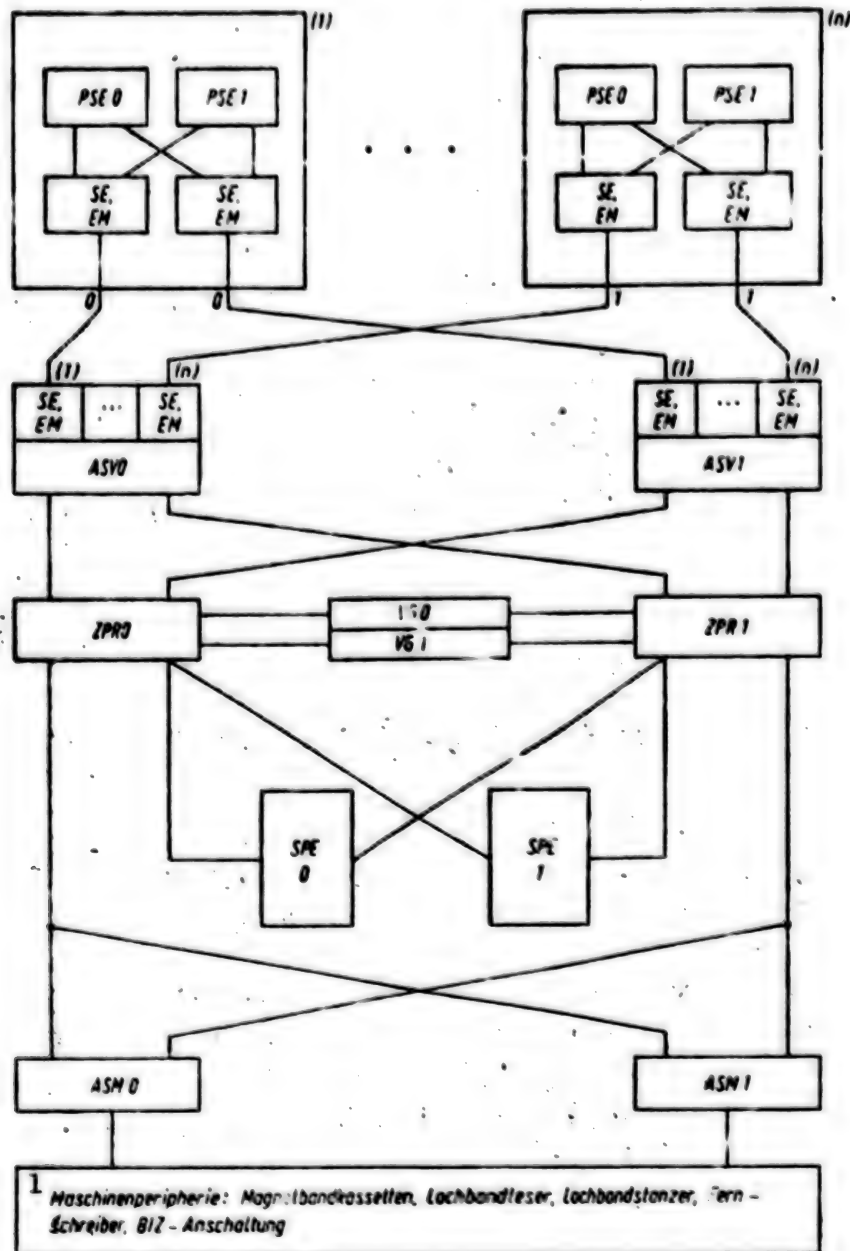


Figure 5: Structure of the control complex

Key:

1. Equipment periphery: magnetic tape recorders (cassette), punched tape reader, tape puncture, teleprinter, BIZ connection

3. Basic Design

The basic design is distinguished by the use of plug-in units throughout. The facilities of the peripheral exchange equipment are arranged in racks. The following conditions are created:

- simple fabrication
- rational in-situ assembly of the mechanical parts, the prechecked electrical components and prefabricated plug-in central cables
- variable retrofitting and expansion
- unlimited access to the plug-in units and to the wiring as a result of the plug-in assemblies
- potential for system installation in all existing facilities

The rack framework is characteristic; this consists of several rows forming a skeleton into which the equipment is installed. It also holds the connection lines and central cable (see photo [not included]). The racks are delivered as individual components and assemblies. It is easy to transport because of its low volume and weight and is easy to assemble.

The depth of the frame also defines the depth of the finished rack and this is up to 280 mm. The length of the frame is determined by a 700 mm raster for one operator's seat. Both ends of the frame are sealed by a lining containing row fuses and signal lamps as well as switches for row illumination and jacks (Figure 7). Perpendicular supports 700 mm from the raster are used for plugging in the wiring unit and component supports. These supports hold the power lines and are provided into two lengths for racks comprised of eight or ten stages of 240 mm each.

In the upper part of the frame there is a grating. The power cables can be laid in the back and the special circuits can be laid on the front. The supports extend out to the flat grid which can be located over the entire surface area as well as in assigned lanes.

All electrical assemblies (including power supply and central cable trunk) are of plug-in design. The wire frames are of coil design. An EDP design was refined for the control complex (dimensions of the cabinet: 1,740 mm x 755 mm x 1,215 mm).

4. New Performance Characteristics and High Reliability for Subscribers and Administration (Table 2)

The ENSAL with its centralized control facilities offers a series of new technical potentials such as:

--high flexibility in adapting to the existing environment and upon introduction of new services for subscribers and administration

--remote control of the exchange central

--centralization of operating functions by automatic man/machine communication

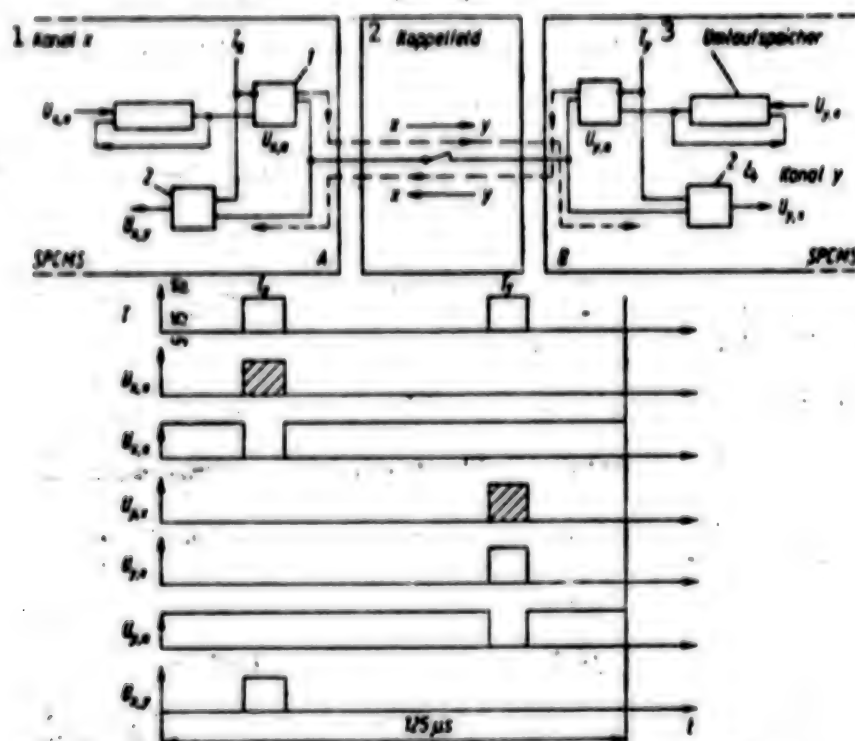


Figure 6: Exchange between two PCM channels with single wire coupling field

Key:

- | | |
|-------------------|-----------------------|
| 1. Channel x | 3. Circulating memory |
| 2. Coupling field | 4. Channel y |

4.1 Integrated Test and Control Equipment in the ENSAD Centrals

Through automatic test and control equipment belonging to the ENSAD centrals or which can be switched into the central upon demand, a rational sequence of work for start-up, operation and maintenance is assured. The defects are expressed as a function of their priority by the control complex and sent to the BIZ by a data exchange.

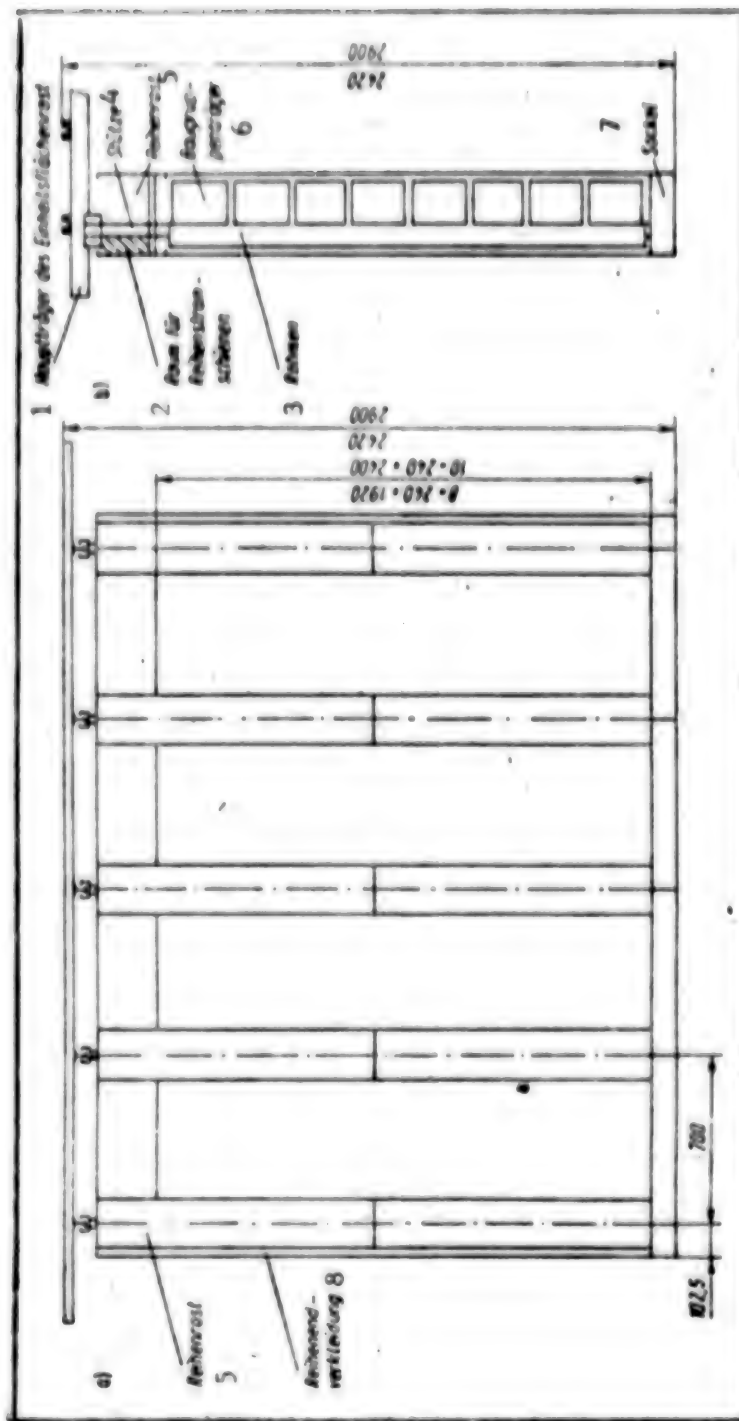


Figure 7: ENSAD rows of racks

a) front view; b) side view

- Key:
- 1. Main support of the unit grate
 - 2. Component for rack power supply
 - 3. Rack (frame)
 - 4. Support
 - 5. Grating
 - 6. Component holder
 - 7. Base
 - 8. Rack end lining

4.2 Use of High-Quality and Reliable Components

Only fused contacts are used in the ENSAD centrals for electromechanical components (coupler and relays). The plug connectors, control and display elements used assure high reliability because of their high quality contact materials and wiring principles. As electronic assemblies, only silicon components of proven designs and integrated circuits are used.

4.3 Modular Design of the Central and High Degree of Equipment Standardization

The basic principle in design of the central exchanges and the requirement of a minimum of slide-in units, grids and frame types to create different types of central exchanges assure a rational unit for maintenance and expansion.

Table 2: Performance characteristics of the ENSAD (a) for the subscriber
b) for the telephone company]

- | | | |
|----|---|--|
| a) | 1. Busy Signal when occupied by B-subscribers | 13. Operator call position |
| | 2. Conference connection | 14. Tapping a call |
| | 3. Touchtone dialing | 15. Information service |
| | 4. Abbreviated dialing | 16. Replacement connection |
| | 5. Query | 17. Long-distance restriction |
| | 6. Hold | 18. Direct connection |
| | 7. Telephone pause | 19. Data display for out-going calls |
| | 8. Diversion of calls | 20. Call up and cancellation of services by the subscriber |
| | 9. Full lock | 21. Special services for interested groups |
| | 10. Waiting with sequencing | |
| | 11. Automatic alarm service | |
| | 12. Lock on out-going traffic | |
- b) --Integrated test and control equipment in the ENSAD central
--Use of high quality and reliable assemblies
--Modular assembly of the centrals and high degrees of equipment standardization
--Centralization and automation of administrative functions
--Assembly and service simplicity of equipment

4.4 Centralization and Automation of Administrative Functions

ENSAD centrals permit a high rationalization of work because of the central control and modular character of the equipment. By utilizing computer controlled exchange systems, a significant partial or complete automation of operating processes can take place upon introduction of ENSAD, by a centralized, computer-supported operating and maintenance center.

4.5 Simplicity of Assembly and Service

With regard to the requirements of simple assembly, a high degree of standardization, simplified operation, rational manufacture and employment of modern electronic assemblies, a construction was created which meets the manufacturers and operators requirements of the systems.

9280

CS0: 5500

GERMAN DEMOCRATIC REPUBLIC

MODEL OF LOCAL TELEPHONE EXCHANGE WITH MICROCOMPUTER DESCRIBED

East Berlin FERNMELDETECHNIK in German Vol 19 No 5, Sep-Oct 79 pp 170-173

[Article by P. Tietze, Chamber of Technology, East Berlin; report from the Institute for Communications Technology, East Berlin, Research Center of the VEB Communications Electronics Combine: "Demonstration Model of the Equipment at a Local ENSAD Central Telephone Exchange." Please see elsewhere in this JPRS issue for a translation of an article describing the ENSAD system as a whole]

[Text] The ENSAD local central exchanges of medium capacity (see also pages 165-170) is designed for a maximum 4096 subscriber connections and 1024 connecting lines. It permits the switching of centrals of the existing network, the connection of other controlled ENSAD centrals and the remote control of ENSAD centrals with 256 subscriber connections. The equipment of the technical periphery is designed so that the same types of equipment complexes are repeated for the 1024 subscribers or 256 connecting lines. The service group components consist of typical frames whose number and size depend on the particular project. For purposes of illustration and demonstration, a model ENSAD local central was constructed. This model illustrates the design and electrical organization of the most important rack types or sections of an operating group for 1024 subscribers.

A microcomputer was developed for the model and it is programed for the most important exchange functions and controls the equipment of the technical periphery.

1. Overview Circuit Diagram of the ENSAD Local Centrals

The overview circuit plan for the ENSAD local centrals (page 167, B4) shows the total possible functional units and their circuiting. In accordance with projects for use in the existing network or for cooperation with other ENSAD centrals, several functional units were selectively employed. Of the illustrated functional units, only those necessary to assure internal communication are included in the demonstration model.

2. Functional Distribution in the Technical Periphery

Function distribution in the technical periphery is explained in particular for components included in the demonstration model, i.e. for equipment needed to generate internal connections.

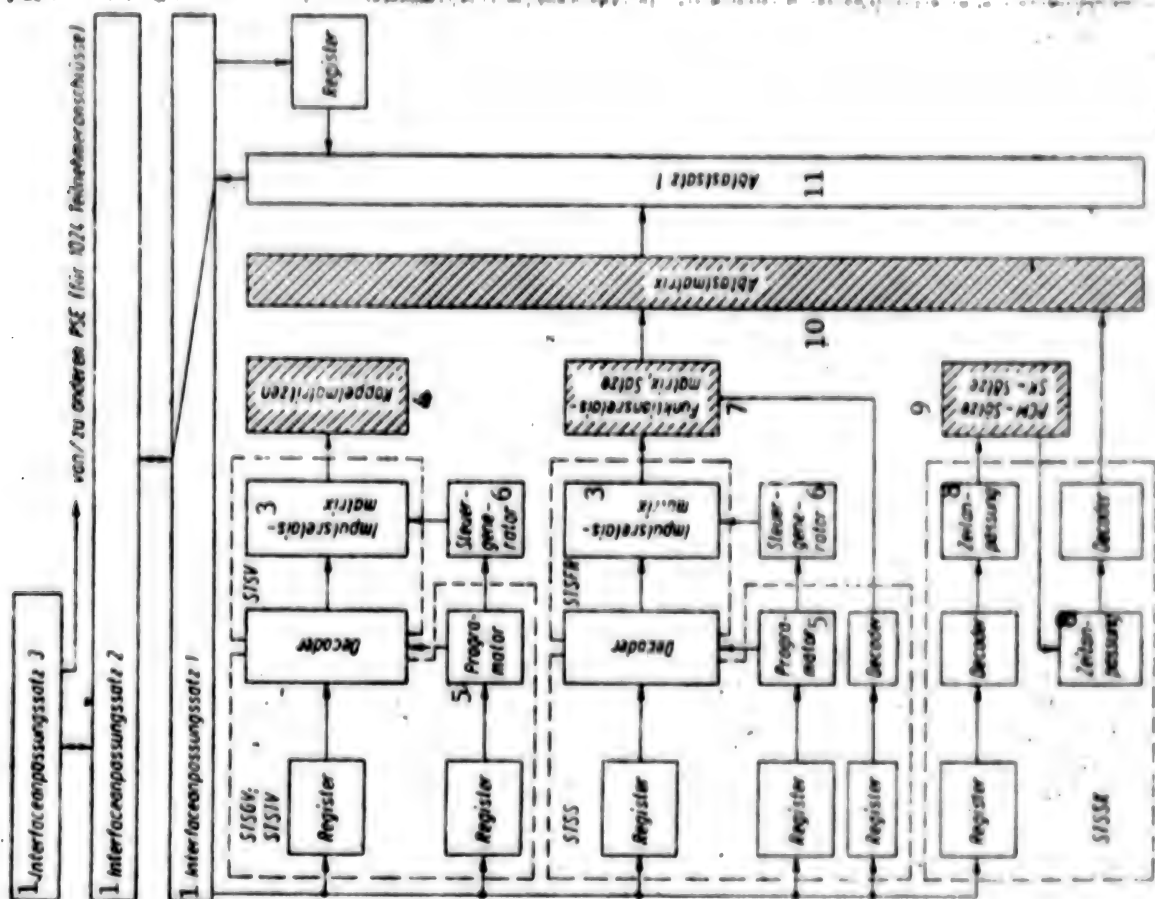


Figure 1: Overview circuit diagram of the peripheral control equipment of the ENSAD

STSS: control units; STSGV: group link control set; STSTV: subscriber link control set; STSSK: control channel unit; STSV: link control set; STSFR: function profile control set

Key:

- | | |
|--|-------------------------------|
| 1. Interface adapter unit | 6. Control generator |
| 2. From/to other PSE (for 1024 subscriber connections) | 7. Function relay matrix sets |
| 3. Pulse relay matrix | 8. Time adaptation |
| 4. Couple matrices | 9. PCM sets; SK sets |
| 5. Programmer | 10. Scan matrix |
| | 11. Scan set |

2.1 Peripheral Control Equipment

The peripheral control equipment of the ENSAD centrals is inserted between the following interfaces:

- exchange interface between control complex and exchange periphery
- adjustment and scanning points of the exchange periphery

They are designed as access organs of the control complex in functional assignment to:

- links
- sets
- PCM or control channel sets
- scan points
- operator seats
- control and diagnostic equipment

The peripheral control equipment is organized at the ENSAD central into expandable functional units of which each group is designed for the servicing of 1024 subscriber connections. For each operating group the following functional units are present (Figure 1): interface adapter set 1 (INAS 1), scan set 1 (ABS 1), control set for subscriber link or for group link (STSGV, STSTV), control set for link (STSV), control set for sets (STSS), control set for functional relay (STSFR), control set for control channels (STSSK).

The functional units named have appropriate registers at the interface to the interface adapter set for interim storage of information from the control complex and are organized into a primary and reserve section.

2.2 Links

In the ENSAD central, the subscriber and group links are made of the ENSAD couplers MIS 10 and MIS 11 of matrix size (2 x 4 x 4) and (4 x 8). The links used in the completed coupling fields of an ENSAD local central are characterized below.

2.2.1 The 32 x 32 x 16 link in the subscriber link (TV)

Each link of the TV has 32 inputs, 32 intermediate circuits and 16 outputs. Two-wire design is used in the link. The link of the TV causes a concentration of 2:1 and is designed so that each input can be connected to each output. Each two links can be circuited in parallel output so that links

64 x 64 x 16 with a concentration of 4:1 are formed. Two links 32 x 32 x 16 are located in a double stage section of the subscriber link rack (TVGL), i.e., in one rack there are links for 256 inputs.

2.2.2. The 64 x 64 x 64 links in the group link (GV)

Each link of the GV has 64 inputs, 64 intermediate circuits and 64 outputs. Double wire design is used in the links. The links in the GV form a mixed stage (concentration 1:1) and are designed so that each input can be connected with each output. A 64 x 64 x 64 link is found in a double stage section. Four 64 x 64 x 64 links can be organized into one group link rack (GVGL).

2.2.3 The 64 x 32 x 32 links in the group links/ sets

The group links/sets are made of partially expanded 64 x 64 x 64 links and are used to connect D.C. signals or MFC duty sets to outgoing and oncoming line sets via which the link circuits are connected to the existing network. The GVS is located in the GV rack and is also controlled by the peripheral control (PSE) of the GV.

2.3 Surface Wire and Line Sets

The subscriber service and supply sets (TDS, ZSPS, TS, GIS, MFCWS) include all functional units which must be present to assure basic exchange function when building up a link between the subscribers of an ENSAD local central. The external service wire and line sets (LSG, LSK, LSD, ESPS, external service sets) include all functional units which must be present to assure basic exchange functions when building up a link between subscribers of an ENSAD local central with subscribers to existing exchange centrals.

2.4 Generator Facilities and Other Functional Units

Besides the named functional units, a series of important functional facilities is needed for the exchange periphery: e.g., MFC generator, call and signal supply (RSV), control generator for links (SIGV), control generator for functional relays (STGFR), voltage convertors (SPW).

For automatic testing and control for startup and operation of the ENSAD centrals, in connection with the needed part of the program set of the control complex, facilities are provided for temporary use during startup, fault correction or as in integral constituent of the central exchanges.

3. Demonstration Model of Facilities at an ENSAD Local Central (Figure 2)

The construction and technological design as well as electrical circuits of the most important equipment of ENSAD local centrals will be presented for four typical racks using the model.

The diagram illustrates the electrical connections for a television control system. Key components include:

- TV (Television):** A large vertical rectangle with terminals A and B at the bottom.
- GV (Geräteverteilung):** A large vertical rectangle with terminals C and D at the bottom.
- Power Supply (SPW/SWKS):** A box at the bottom left providing voltages: -60V, -24V, +24V, and +5V.
- Control Units:** Various boxes labeled with codes like ABS1, STSV, STSGV, STSS, STSFR, and ZSTE.
- Relays/Contacts:** Multiple small boxes labeled MFCWS, TDS, and ZSPS, some with multiple instances.
- Other Components:** RSV, IANS1, and ZSTE.

Connections are shown as lines between terminals and components. A note '1 zu allen Einrichtungen' (to all installations) points to the ABS1 unit. The diagram is labeled with '1', '2', and '3' in the bottom left corner, corresponding to the voltage levels provided by the power supply.

ABS 1: scanning unit 1; IANS 1: interface adaptor unit 1; GV: Group Link;
MFCWS: MFC dial receiver sets; RSV: call and signal supply; STGV: control
set. Subscriber link; STFGV: control set, group link STSS: control sets;
STSV: control set, link; STSFR: control set function relay; TS: subscriber
set; TV: subscriber link; ZSPS: two place supply sets; TDS: subscriber
wire; ZSTE: central control equipment.

1. To all facilities
2. Voltage converter
3. Control sets

3.1 Exchange Sequences

Information exchange between microcomputer and central control unit (ZSTE) and peripheral equipment takes place in two ways. All set information (switch on or off of coupling points in the links or of the function relay in the sets) moves from the microcomputer through the INAS 1 and the control sets (STSTV, STSCV, STSS) into the individual peripheral equipment of the link and set racks. Conversely, all information regarding operating condition moves over the ABS 1 to the microcomputers (ZSTE). The scanning sets have access to all equipment of the model. The speeds at which information exchange takes place between microcomputer and peripheral equipment is determined by the program input into the microcomputer. Switching through to the links takes place by double wire.

The link establishment and termination sequences deviating from the normal sequence outlined above are created analogously by the program of the microcomputer:

--releasing a link if subscriber dialing is interrupted

--releasing a link if the called subscriber line is busy and calling subscriber hangs up

--releasing the link if no free DTS, ZSPS or other connection possibilities can be found in the links.

3.2 Design (Figure 3)

3.2.1 Service Wire Rack (DSGL)

The DSGL consists of sections of the ENSAD local central but is not used in this version. It is intended specifically for operating in the created demonstration model.

In the section on ZSTE there is a microcomputer which provides or processes information to operate the peripheral exchange equipment of the model and which controls the entire time sequence of the individual control tasks. In the other sections there are all sets needed to complete important operating sequences (double input sets (ZSPS), subscriber service wires (TDS), MFC dial receiving sets (MFCWS) and call and signal supply (RSV)).

In the central section we find the STFFR, the power supply equipment (SPW, SWKS) and ABS 1 of this rack.

Brief description and classification of the corresponding sections in parenthesis

SGV 1	(group link 1)		
SMFCWS L	(MFC dial receiving set 1)	SVEGV 1	(power supply equipment, group link 1)
SS 1	(set 1)	SVES 1	(power supply equipment, set 1)
SSTSS 1	(control set 1)	SVETV 1	(power supply equipment participant link 1)
SSTSV 1	(control set link 1)	SZSTE 1	(central control unit 1)
SSTG 1	(control generator 1)		
STV 34	(subscriber link 34)	SZVT 1	(intermediate distributor 1)
SVEPS 1	(power supply equipment, peripheral control 1)		

3.2.4 Group Link Rank (GVGL)

In the middle section we find the STSV, the power supply equipment (SPW, SWKS) and the ABS 1 for the rack. STSV can control a maximum of four links. Each link has 64 inputs and 64 outputs so that a GV measuring 256 x 256 x 256 results. This has a concentration of 1:1 and is used as a pure mixing stage.

9280

CSO: 5500

INTER-AMERICAN AFFAIRS

BRAZIL, ARGENTINA TO NEGOTIATE COMMUNICATIONS SATELLITE

PY110221 Rio de Janeiro JORNAL DO BRASIL in Portuguese 8 Mar 80 p 16 PY

[Text] Brasilia--During his visit to Argentina in May, President Joao Baptista de Figueiredo will negotiate with President Videla the formation of a consortium to launch a domestic satellite to be shared by the two countries. Romulo Furtado, secretary general of the Brazilian Communications Ministry, is in Buenos Aires now to attend the regional administrative conference of the International Communications Union and to discuss the satellite, in compliance with a measure authorized recently by the president of the republic.

The call for international bids to supply the satellite will also be made this year. The contract could be awarded either to the United States or the Soviet Union, the only countries which manufacture satellites, and it would be agreed upon in 1981. The launching of the satellite would take place within 3 years. This report was released yesterday by TELEBRAS [Brazilian Telecommunications Corporation] President Jose Antonio Alencastro Silva, who stated that the launching of the satellite does not depend on the approval of the national congress because it is a commercial endeavor.

General Alencastro Silva said he considers the decision of the Brazilian Government to use a consortium to launch the satellite to be "excellent," because "only by associating ourselves will we be able to face the economic crisis, and in this case, we will obtain a tremendous traffic capacity in the telecommunications sector."

With the consortium, Brazil will have 10 radio channels, each capable of carrying 1,000 simultaneous conversations, which once again justifies the feasibility of launching the satellite by the two countries. Brazil will contribute to this enterprise with ground stations which have been developed by domestic industry, and which, according to Alencastro Silva, are more advanced than those Argentina can offer.

The TELEBRAS president also said that Brazil's main interest in participating in that consortium is to divide the cost of the satellite, and most of all, to divide the burden of the research which is being carried out.

Both Brazil and Argentina are members of INTELSAT, and for this reason the domestic satellite to be launched cannot be used for international connections. Both countries contribute to INTELSAT's budget, Brazil being one of the major shareholders. In compliance with the rules governing the international satellite, the DDI [direct international dialing system] will not be used by the domestic satellite.

CSO: 5500

AEG-TELEFUNKEN MAY CONVERT DEBT INTO RISK CAPITAL

Rio de Janeiro JORNAL DO BRASIL in Portuguese 12 Mar 80 p 21

[Text] Sao Paulo -- AEG-Telefunken may convert the \$80 million (3.7 billion) of the foreign debt of its Brazilian subsidiary into risk capital. This was acknowledged in this capital yesterday by the new world president of the organization, Heinz Durr, who, in this first official visit to Brazil as head of the group announced new investments in the country this year in the order of 300 million cruzeiros.

He revealed that the group considers Brazil one of the most important investment areas, considering that 20 percent of the total number of the organization's employees are concentrated here, about 6,500 people. The new investments will be made in the area of electronic support (radios and television), traffic and communications equipment and other sectors, including increasing the production of equipment for military use.

Nuclear Program

Heinz Durr explained that part of the company's losses -- it lost 8 million cruzeiros in Brazil and 1 million marks (25 million cruzeiros) in the German headquarters -- was due to the company's unsuccessful attempt to participate in nuclear programs and was one of the reasons why Telefunken left the German KWU, in which it participated with 50 percent of the capital along with Siemens. Having left the nuclear sector, the group plans to concentrate now on its traditional activities, particularly in the electro-electronic area. For Brazil, there is also a program of production of circuit-breakers but Heinz Durr did not want to reveal who will be the partner in the joint venture it has to present in order to produce that equipment under the terms of the requirement established by the Economic Development Council (CDI).

On the international level, his group will reduce its staff totaling 120,000 by 8,000 to 9,000 employees. Last year there was a staff reduction of 5,000 but, he stressed, without the dismissal of anyone; employees who left were not replaced. The staff reduction will not hit Brazil where, along with current activities, Telefunken also plans to include the development of technology for the use of solar energy as part of a program already under study in Mexico, Indonesia and the Middle East.

In Brazil, in addition to AEG-Telefunken, which is the main enterprise, the organization has a majority share in the Stevenson electronic industry (100 percent) and indirectly in the Olimpia of Brazil (office machines) companies, Hartmann and Braum (75 percent). It also has a minority share in Uniao Transformatores and Akz Turbines, and Sertaozinho. In the electronic sector, the company is the holder of the PAL television system technology that is used in Brazil.

In addition to reinforcing its production units in Sao Paulo, the company plans to install an electronic components industry in the Manaus Free Zone. Heinz Durr explained that the organization is interested in helping in the development of other regions of the country in addition to Sao Paulo where there is already heavy industrial concentration.

8711
CSO: 5500

NEW RULES TO GOVERN COMPUTER IMPORTS

Rio de Janeiro O GLOBO in Portuguese 14 Mar 80 p 24

[Text] Sao Paulo -- The Special Secretariat for Data Processing (SEI) next week will define the new rules that will govern Brazilian imports of computers but it is already known that approval of the processes will no longer be based on the type or size of the equipment. In that case, in specific cases, even minicomputers may be imported; however, that does not mean any change in the policy of protecting national industry in that sector.

That was reported yesterday by the executive secretary of Octavio Gennari Netto, who first had lunch with the members of the Societies of Users of Computers and Subsidiary Equipment (SUCESU) and later met with the members of the Brazilian Association of the Electrical and Electronic Industry (ABINEE). At both meetings, he reported on the new policy of the secretariat the basic objective of which is "to promote the scientific and technological development of the country in this sector or risk facing serious problems in the future."

But until that development of know-how is achieved--it will take 5 years--the Secretariat for Data Processing will "establish the rules for the imports that are still necessary." Total purchases abroad, however, cannot exceed \$180 million, which is the quota established by the government for this year.

"We are going to establish the rules, which are going to be flexible and not prohibit imports, which at the moment is the major concern of the users," he declared.

More Power

Explaining the new functions of SEI, which replaces the Electronic Data Processing Coordination Committee (CAPRE), Gennari explained the previous policy will be maintained "although as of now the secretariat is going to have broader decision-making powers in practically all areas, such as those of semiconductor components, process control equipment, instrumentation, as well as in the specific area of computers and data transmission."

With its new power, Gennari said, SEI is going to take care of the interests of the users and the industrialists "but under no circumstances will it permit unnecessary imports."

He said also that this year Brazilian Computers and Systems Corporation (COBRA) will launch on the market, its medium computers which will be serially produced at an accessible price.

"Perhaps it will still be more expensive than the imported ones but it will be ours, produced in Brazil. It is all a matter of scale. So far, the Europeans and the Americans, for example, manage to build cars, television sets and even blenders cheaper than those produced here but if we were to look only at that detail, we would not be building any of those items in Brazil even today.

8711

CSO: 5500

COMMUNICATIONS FIRMS TO FINANCE TELEBRAS

Rio de Janeiro JORNAL DO BRASIL in Portuguese 6 Mar 80 p 24

[Text] Brasilia -- The president of the Brazilian Telecommunications Corporation (TELEBRAS), General Jose Antonio Alencastro Silva, revealed yesterday that Standard Electric, Ericsson, NEC and Siemens agreed to finance the basic telecommunications equipment for the expansion of the sector this year. "With the support of the terminals industries," said the general, "all we need now is the same from the cable industries, with whom we are already in the talk phase."

The telephone cable sector is the one that is in the most difficulty inasmuch as since the end of 1977 the manufacturers have been working with an idle capacity of 60 percent. In order to make possible the contracting of 350,000 telephone terminals envisaged for this year, TELEBRAS negotiated with the terminals industry payment of 10 percent of the total equipment contracted, with this payment being transferred from 1980 to 1981.

The only company that was prepared to finance 20 percent of the total was Siemens, which will also finance the portion that is paid against the delivery of equipment at the beginning of installation.

The general suggested to the companies that they obtain working capital from their home offices in order to take care of financing the equipment and to overcome their idle capacity. He believes that naturally the idle capacity of the industry will not be completely solved inasmuch as it has a capacity of 700,000 terminals, but suggests that the manufacturers strive to export, "something that is being greatly encouraged by the government."

The 350,000 telephone terminals to be contracted by TELEBRAS this year, according to the president of the company, is equivalent to 450,000 "if we consider that in each transit station one terminal is equivalent to four." He said also that the contracts for terminals include the order for external networks, radios, etc.

8711

CSO: 5500

BRIEFS

RADIOBRAS DIRECTORS RESIGN -- Brasilia -- The requests for resignation of the Brazilian Radiobroadcasting Company (RADIOBRAS), Vitor Pinheiro and two directors, Ailton Porto and Ricardo Jaguaribe were accepted yesterday by Minister of Social Communication Said Farhat. The director-superintendent, Jose Carlos de Andrade, who is mentioned as slated to assume the presidency, remained. Although nothing has been reported officially, it is known that the departure of the three is the result of internal differences regarding the orientation of programming of the official radio stations in Rio: Radio Nacional and Radio Ipanema. A few days ago, Minister Farhat had warned the directors of RADIOBRAS about the need to end their discussions and find a common programming direction. In Planalto Palace, it was commented only that both the president and the two directors attributed their departure from their positions to problems of a personal nature. According to Minister Farhat, they will remain in charge until their replacements are named. [Rio de Janeiro JORNAL DO BRASIL in Portuguese 29 Feb 80 p 6] 8711

CSO: 5500

SATELLITE LINK GROUND STATION INAUGURATED

Guatemala City DIARIO DE CENTRO AMERICA in Spanish 7 Mar 80 p 16

[Article by Saul David Oliva]

[Text] At a stirring ceremony held in the Mariscal Zavala Military Brigade, the president of the republic, Maj Gen Fernando Romeo Lucas Garcia, inaugurated the ground station of the satellite link christened "Quetzal-1."

After cutting the symbolic ribbon, the chief executive put the ground station via satellite into operation, receiving the first call from abroad. For a few minutes he spoke by telephone with Foreign Minister Rafael Castillo Valdez, who is in Washington, in the United States.

Praising the project carried out by the Guatemalan Telecommunications Company (GUATEL), President Lucas Garcia said that it is another achievement of Guatemala's technological progress which enables us to draw closer to our brethren in the world and to enter into the modernization of the communication systems.

During the ceremony, the gathering was addressed by Colonel Ruben Alvarez Ramirez, director of GUATEL, who gave a comprehensive explanation of the station. That communications center, christened "Quetzal-1," consists of a parabolic antenna 21 meters in diameter with direct reception of the satellite and a microwave system to the GUATEL tower, for telephone, telex, etc., links to the whole world; it has 30 simultaneous channels and 20 alternate circuits sufficient for daily complete coverage.

In accordance with the program prepared for the historic event, the national anthem was played and the national flag was raised. Commemorative plaques were presented to the president, General Fernando Romeo Lucas; engineer Otto Block, minister of communications and public works; Col Hugo Tulio Bucaro, minister of public finances; and Col Alvarez Ramirez, director of GUATEL by the contracting company, the Harris Satellite Communications Corporation.

All the country's communications media commented on the impetus given to the modernization of international telephone communications as well as the expansion of domestic telephone communications in Guatemala by the government of General Garcia.

GUATEL repeater station being installed in Quezaltepeque, Chiquimula

The repeater station of Quezaltepeque, Chiquimula, which will serve as a line with the Asuncion Mita central, already completed, and the Esquipulas central is in the process of being installed. This was revealed by the director general of GUATEL, Col Ruben Gonzalo Alvarez Ramirez, in a comprehensive report on the telecommunications programs underway this year.

Quezaltepeque is very important, he said, because linking Asuncion Mita, Jutiapa with Esquipulas, Chiquimula will make communications with Honduras more efficient and rapid.

The Quezaltepeque repeater station will cost 300,000 quetzales and it is estimated that it will be completed in a maximum of 3 months. Once in operation, it will permit direct communication with the Central American telecommunications network.

Telephone Central in El Progreso

In El Progreso a telephone central is already in operation, initially with 200 lines which can be expanded as the needs of the region require.

It was reported that a telephone central was installed in El Progreso in view of the fact that it is a rapidly developing department.

GUATEL Taking Better Care of Public

GUATEL director Col Ruben Alvarez recently held a meeting with all departmental supervisors to instruct them on how to treat the public and how telephone service customers should be taken care of.

The GUATEL director emphasized to the supervisors that a good image of the company depends on the attention that is given the public, especially in the interior of the country where the need for telecommunications service is greater.

"It should be understood," the GUATEL director told the supervisors, "that we are not supplying a free service but that the customer is paying to receive it and consequently deserves greater attention, as a customer who makes the company's existence possible."

Colonel Alvarez expressed his gratification at having received an offer of greater cooperation from the supervisors, especially in activities into which GUATEL may enter more socially in the different communities it covers with its services.

The Development of a Country Is Measured by the Number of Telephone Lines

By inaugurating the first Guatemalan ground station to modernize communications via satellite in order not to depend on leasing services from neighboring countries, he said, we will achieve substantial savings to pay for the station itself.

The GUATEL director added that everyone knows how important telecommunications are in the world today. They have become indispensable in all activities of man and we have reached the point where in some ways the development of a country is measured by the number of telephone lines it has.

It is recognized that economic, social and cultural progress cannot be maintained without development of telecommunications services.

It was also revealed that interconnecting equipment has been purchased to interconnect the 55,000 line project that is expected to begin operations soon, which will help to prevent congestion in the telephone system.

Thus, it is planned to build and install a repeater in Quezaltepeque within the next few months as part of the national microwave network, implementing the plans for telecommunications infrastructure in the Northern Transversal region, which is developing at an increasing rate.

8711

CSO: 5500

CONFERENCE ON CENTRAL AFRICAN TRUST TERRITORIES, 1979

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AB272140 KINSHASA 2204 16 APR 1979 201 01 00Z 00Z AB

[Text] KINSHASA, 22 APR (AB272140) From 28 to 30 March, Kinshasa will host the conference of the group countries of the Central African zone which comprises 17 countries comprising most of the continent (Zaire, the People's Republic of the Congo, the Central African Republic, Cameroon, Gabon, San Tomé and Príncipe, Rwanda, Burundi, Chad, Angola and Equatorial Guinea).

The participants in this meeting want to draw up an inventory of the facilities of the national agencies of the member states of the pool and define the type of communications network to establish between the national agencies, the radio routes and the headquarters of the Pan-African News Agency (PANA). The Central Press Agency was chosen by the conference of information ministers held in Addis Ababa from 4 to 8 April 1979, as the starting point which is to involve liaison in the gathering of news from Central African countries.

This year high quality microwave radio communications systems using microwave HF frequency systems are scheduled to be set up between Zaire, the Congo, the Central African Republic, Gabon, Equatorial Guinea, Cameroon and Chad. San Tomé will be connected to Libreville by an HF (high frequency) radio communications circuit. Rwanda and Burundi will be linked to the African national network by HF radio communications and to the network of the East African Community. Communications with Angola are now carried out by means of an HF radio communications system, which will be replaced by microwave radio communications circuits linked to the Congo.

Inter-satellite communications earth stations exist or are in the process of being installed in six countries (Zaire, the Congo, Gabon, Cameroon, Chad and Angola). Feasibility studies for other stations are underway.

Linkages with the other subregions are provided towards the south, by Zaire, as far as Zambia, towards the west, by Zaire, as far as Tanzania; towards the northwest as far as Nigeria. The Kinshasa conference comes in the wake of the intergovernmental conference recently held in Luanda (Angola) and which established the foundations for the operation of the PANA.

Meeting Opens

AB291314 Kinshasa AZAP in French 1220 GMT 28 Mar 80 AB

[Excerpt] Kinshasa, 28 Mar (AZAP)--The general delegate of the Zairian Press Agency, citizen Kande Dzambulate, opened the meeting of the press agencies of Central Africa late in the morning at the Mobutu Sese Seko Hall of the Department of Foreign Affairs and International Cooperation, in Kinshasa. It will last until 30 March. After welcoming the delegates of the Congo, CAR, Rwanda, Burundi, Gabon and Sao Tome on behalf of the MPR founding president, president of the republic, citizen Mobutu Sese Seko, citizen Kande Dzambulate declared: Zaire, whose interest in the project of creating a Pan-African News Agency remains unquestionable, is pleased to make its modest contribution by hosting the meeting of the press agencies of the member states of the Central African pool today.

Noting that the meeting of regional pools are part of the final preparations for launching of the Pan-African News Agency (PANA), citizen Kande said that the Kinshasa meeting will be an essential landmark on the road of establishing this continental agency.

For AZAP's general delegate, the importance of the Kinshasa meeting arises also from the significance of the role of the pools in the functioning of PANA, whose Dakar headquarters will be and remain the terminal where data from regional pools will end up. From this perspective, citizen Kande Dzambulate continued, the central headquarters would be only a giant with feet of clay unless the pools insure a regular news service of perfectly professional quality. Therefore, he went on, being aware of the responsibility assigned to the Central African pool, the participants in the meeting will devote themselves to:

--Finding the most efficient and least expensive means of exchanging news inside the pool as well as between the pool and the headquarters;

--Defining the structure and operation of the regional pools;

--Evaluating the technical resources of each of the respective press agencies.

For citizen Kande Dzambulate, the technical aspects of the problem require thorough analysis because the shortage of an adequate infrastructure remains the major obstacle to exchanging news, because possessing the technical and technological equipment necessary to insure the most rapid and sure communications is a prerequisite for establishing a new world information order.

At the 1980 conference, opened by the general delegate of the Zairian Press Agency, a delegate from the Central African Republic read a message from his country addressed to the conference of the Central African pool. In it, he stressed that his country wanted to provide expertise for the news agencies and formulate proposals on the theme of the conference, that is defining a communications network to be established between the national agencies, the center of the pool and PANA headquarters. He expressed the hope that the Kinshasa conference will respond to the reoccupation of his country to define, in concrete terms, the material and technical conditions for efficient exchange of information in order to reduce the dependence of our information agencies vis-a-vis multinational information; to protect the information market in our subregion and finally to free our subregion in the field of information.

Resolutions Adopted

AB311043 Kinshasa AZAP in French 1220 GMT 30 Mar 80 AB

[Text] Kinshasa, 30 Mar (AZAP)--Today, at the Mobutu Sese Seko Hall of the Department of Foreign Affairs, the general delegate of the Zairian Press Agency (AZAP), citizen Kande Dzambulate, presided over the closing ceremony of the conference of the press agencies of the Central African pool.

At the end of the sessions, which fell within the framework of setting up the operational structures of the Pan-African News Agency (PANA) at the direction of the Intergovernmental Council of PANA, which met in Lobito, People's Republic of Angola, from 18 to 21 January 1980, the following resolutions were taken:

On general cooperation, participants to the conference pledged to define a judicial relationship between the host country and the administration of the headquarters of the subregional pool: to initiate the process of setting up national news agencies in those member countries that do not have any, namely, the Democratic Republic of Sao Tome and Principe and the Republic of Equatorial Guinea; and to organize training courses for the personnel of the news agencies in order to harmonize the news policies of the various member countries.

On technical cooperation, they asked for preferential tariffs for the press. They also requested that the national press agencies be supplied with autocomm transmitting and receiving radioteletype in order to insure direct connections with the collecting and diffusing center of the pool. Finally, they asked that the existing telecommunications network be improved and that new direct connections be set up in those member countries where they still do not exist.

Agencies of member countries of the pool have pledged to exchange regularly and freely their bulletins, features, photographs and other documents, to authorize the pool member agencies to receive and exploit transmissions from other agencies of the pool without awaiting the conclusion of particular accords.

INTER-AFRICAN AFFAIRS

CONFERENCE OF CENTRAL AFRICAN NEWS AGENCIES ADOPTS RESOLUTIONS

AB311043 Kinshasa AZAP in French 1220 GMT 30 Mar 80 AB

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INTER-AFRICAN AFFAIRS

BRIEFS

ANGOLAN-ZAIRIAN NEWS AGENCIES--Kinshasa, 31 Mar (AZAP)--The general delegate of AZAP, citizen Kande Dzambulate, today received Mr Siona Casimiro, planning director of the Angolan Press Agency (ANGOP), who called on him to deliver a document on Angola's views about participating in the pool of news agencies of Central African countries. On this occasion, attention centered on the possibility of cooperation between the two agencies, particularly in the exchange of news and the training of personnel. The two parties are expected to meet to draw up a document on this cooperation before an agreement is signed to give it a judicial backbone. In addition, Mr Siona stated his desire to learn about the structure and infrastructure of AZAP before planning to send ANGOP technical personnel and journalists to Kinshasa for training. Mr Siona, who arrived in Kinshasa last Sunday, intends to return to his country next Wednesday via Brazzaville. [Text] [AB010807 Kinshasa AZAP in French 1755 GMT 31 Mar 80 AB]

CSO: 5500

IVORY COAST

NEW RADIO GRID TO BE INAUGURATED

Abidjan FRATERNITE-MATIN in French 12 Feb 80 p 6

[Interview with ICRT Program Director Henri Goba]

[Text] On 17 February, on Ivory Coast Radio and Television [ICRT] nothing will be like it was before: a new schedule (a new grid, speaking in technical terms) has been established which will be put into effect. This was decided by the authorities at ICRT with Mr Henri Goba, program director, at their head.

Then the listener's first question is the following: why a new schedule then, is it because the old one required breaks in transmission? What are the new elements of this new grid? Mr Henri Goba provides basic answers to all these questions in the interview which he granted us.

To inform, to educate and to entertain is the three-part plan which the new grid of radio broadcast programs articulates, Mr Goba states before specifying: "It was also established, in the matter of the important endeavor agreed to by the government, in order to totally cover the area in sound broadcasting; this endeavor can only incite the programming management to improve the quality of radiophonic production."

"In connection with this," Mr Goba added, "this grid promises to offer national and foreign listeners programs which will be in keeping with their activities, their concerns and their daily desires. There will be many more live programs which will contact the masses. To a large extent, they will respond both to the concerns of the common people's world and to intellectuals' constantly renewed hunger."

[Question] Director Goba, the outline for this grid shows an increase in broadcast and production hours. One also notes that there is a reduction in foreign productions. Why is this?

[Answer] In reality, we are going from 153.5 broadcast hours to 154.5 broadcast hours, an increase of 60 minutes each week. This increase is due, in part, to the early start of English language broadcasts and to the increase in radio time on Saturdays for the retransmission of artistic events abroad.

Naturally, this increase in the schedule also implies an increase in production hours and consequently the constant availability of a large, qualified staff.

Concerning the second part of your question, although foreign productions now represent nearly five percent of the total volume of our programs and will fall to less than two percent, this does not at all mean, for all that, that we are closing ourselves to foreign contribution. Our concern is guided, above all, by the emphasis which we believe must be placed on national production which focuses much more on the listener's needs. We are not losing sight of the saying "radio for the public and in service of the public," an important idea which leads to making our programs into programs of the people (an example is "Pedestal 79"-broadcast for the young).

[Question] A large space is allowed for educational and cultural programs; at the same time, the beginning of a more decentralized schedule is noted in this new grid, what do you think about this?

[Answer] In the new grid, a small space is reserved for musical broadcasts which, until now, represented the major part of our productions. An effort will henceforth be made to determine the great centers of interest; by means of the compilation of different types of magazines (literary, musical, agricultural, informative, interview forums, news), it will truly be a question of leading toward a qualitative improvement of the content of aired programs.

Pending the implementation of the country's vast equipment program into regional stations, in answer to the second part of your question, the programming management will try to respond to one of the first orientations of the LCRT, that of decentralizing its broadcasting centers to the maximum. It will be a matter of producing more broadcasts from our prefectures and sub-prefectures.

For example, the ordination of a priest, the yam festival or any other event of a national nature can be retransmitted from the very location of the event. The programs prepared in this way will therefore, for the most part be live programs. They will be true motives for us to encourage our towns. This implies unfailing cooperation on the part of the political and administrative authorities in the regions involved as well as reliable technical installations.

Finally, this new grid shows an increase in English language broadcast hours.

[Question] Director Goba, when one observes your new schedule, one notices the emergence of both new broadcasts and previously existing broadcasts, could you say a few words to us about this?

[Answer] Some appear in accordance with the orientation which we wish to

give to our forthcoming programs; others are revived merely because they had a considerable audience, a few years ago, with the public.

Thus, for new broadcasts we have: "Panorama Africa"; "Zenith"; "Remembrance Radio"; "Radio Dialogue"; "Consumer Forum"--that is to say 8 to 15 hours of serious production each week.

For rerun broadcasts, there are "Family Yao" and "Campus," a university information broadcast.

It is to be noted, on the other hand, that a large space is given to current events. Besides the hourly newsflashes, there is the headline reminder which will generally be situated 15 minutes before the newscast. This reminder with a maximum length of 3 minutes will have the advantage of permitting listeners who cannot follow the news in great detail at least to have an idea of the content of the newscast.

As you see then, this grid of radio broadcast programs is intended to reflect the aspirations of the Ivory Coast Radio listeners.

To the main criticisms which are addressed to us, including, among others, that of broadcasting many musical programs on our radio, we now offer a radio which opens its doors to culture, research and thought. It is a living, alert radio which is attached to the realities of its milieu. This is also a long and exacting task whose results will be quantified a few months after the application of this new grid.

We cannot conclude without thanking the principal authority responsible for information, Mr Amadou Thiam who gave his agreement for the initiation of this new grid.

To set an example for his personnel, every morning Mr Goba will himself host a broadcast whose revealing name "Viewpont" will permit him to reflect on all aspects of life in the Ivory Coast. Listen then to Ivory Coast Radio on 17 February 1980.

9181

CSO: 5500

BRIEFS

NEW RADIO TRANSMITTERS, BOOSTERS--The Ministry of Information and Broadcasting will soon install transmitters and booster radio stations to expand radio reception in the country. This was said by an assistant minister in the ministry, Mr Mgbogori, in a 3-day meeting in Nairobi today, attended by permanent secretaries as well as directors of information and broadcasting from six African countries. Speaking on the importance of radio as an effective channel of communication, Mr Mbogori called for comprehensive and systematic approach and policy in order to maximize its effectiveness in different communities. He expressed concern that while developing countries are acquiring all equipment required for the dissemination of news there was little emphasis on research into the effectiveness of communications and the needs of the community being communicated with. [Text] [LD311636 Nairobi Domestic Service in English 1400 GMT 31 Mar 80 LD/EA]

CSO: 5500

RHODESIA

RESIGNATION OF BROADCASTING BOARD REPORTED

LD151011 Johannesburg International Service in English 0400 GMT 15 Mar 80 LD

[Text] The entire board of the Zimbabwe Rhodesian Broadcasting Corporation has resigned. The eight members of the board, four blacks and four whites, have declined to discuss their resignations so far, but they are expected to make a statement on it when they have tendered their resignations officially to the governor. An official of the incoming government has said, however, that the resignations would be welcomed by the government as they will make it unnecessary to dismiss any of the members.

Zimbabwe's new information minister Mr Nathan Samuyarira has told a BBC correspondent in Salisbury that his government intends to honor the principle of freedom of expression and of the press. He said the government did not intend to purge the radio and television services and there would be room for everyone who accepted the new order. Although competent (officials) from his own department would be moved into key positions, the press would continue under private ownership for the time being.

CSO: 5500

FRG, FRANCE MAY SOON SIGN TV SATELLITE AGREEMENT

Paris LE MONDE in French 7 Feb 80 p 4

[Text] France and the Federal Republic of Germany seem on the point of resolving the problems which were still delaying joint construction of direct television satellites. That at least is the opinion of the director of aerospace affairs of the German Ministry of Research and Technology, Hermann Strub, who said during a talk in Berlin: "Definitive agreement between France and Germany with all its technical and financial details will doubtless be signed before Easter."

This program, which involves a financial commitment by the two countries of 1.3 billion francs, is to give rise to the study and building of two pre-operational, direct television satellites--one German, TV-SAT, and one French, TDF-I--and a spare flight model. Each of the two devices reportedly will be equipped with a different useful charge, depending upon the individual needs of each of the user countries. They are supposed to be launched by means of an Ariane rocket at the end of 1983 and the beginning of 1984.

The French-German agreement in principle which was reached on 2 October during the summit meeting between Chancellor Helmut Schmidt and Valery Giscard d'Estaing had given rise at the end of November to a first show of interest on the part of industrialists. Thus, Messerschmitt-Bolkow-Blohm and AEG-Telefunken for Germany and AEROSPATIALE [National Industrial Aerospace Company] and Thompson-CSF [General Radio Company] for France decided to join forces, if selected, to build these satellites and to jointly solicit potential customers. (LE MONDE, 29 November)

Since then, everything seemed at a standstill; and there were questions in specialized quarters about the future of this program, to the point that the Americans appeared to be ready to enter the competition. Strub's statement and the recent remittance to the French government of the draft German protocol on these direct television satellites permits one to think that certain obstacles are in the process of being surmounted, particularly on the part of Germany which, after a period of very active enthusiasm had given evidence of a certain amount of foot-dragging. Problems of financing the program, choice of industrialists and operational [maitrise d'oeuvre] responsibility have not yet been resolved.

INTERNATIONAL AFFAIRS

TELECOMMUNICATIONS NETWORK 'EURONET-DIANE' ACTIVATED

Paris AFP SCIENCES in French 14 Feb 80 p 17

[Text] Mme Simone Veil, president of the European Parliament, solemnly inaugurated the EURONET-DIANE system on 13 February in Strasbourg and thus initiated data transmission [telematique] in Europe.

In the presence of Vittorino Colombo, Italian minister of posts and telecommunications, (at present Italy fills the presidency of the Council of Ministers of the European Economic Community) and Roy Jenkins (Great Britain), president of the Commission, Mme Simone Veil symbolically opened the system with a key. Immediately, the ministers of posts and telecommunications and the president of the Italian Council, Mr Cossiga, in turn, entered into communications with Strasbourg.

Installed by the Commission of Communities, with the collaboration of the nine national administrations of the ministries of posts and telecommunications, EURONET-DIANE is made up of a specialized telecommunications network (EURONET) and a group of data-feeder centers (DIANE).

EURONET-DIANE in particular permits a linkup of Strasbourg with the various European decision-making centers. It will also facilitate exchanges of documents between various European cities and at times obviate trips by European officials.

The EURONET-DIANE network (which is tied into the TRANSPAC [expansion unknown] system), which at present covers the nine countries of the EEC [European Economic Community], will be extended to Switzerland. Negotiations are now underway for expansion to other countries which are members of the European Posts and Telecommunications Conference (CEPT).

EURONET is "an important stage in implementation of a common market of information, whether it be scientific, technical, social or economic information," according to the president of the European Parliament. Mme Veil added, "EURONET in particular meets the needs of small and mid-sized companies which have for a long time found themselves at a disadvantage in their quest for information with respect to the big industrial complexes."

PTT TO USE 400-MHZ RADIO REPEATERS

Paris ELECTRONIQUE ACTUALITES in French 15 Feb 80 pp 1, 7

[Article by D. Levy]

[Text] In the face of increasing demand (17.7 percent in 1979 compared to the previous year) for automatic radiotelephones and of the imminent saturation of the networks operating on the 150 MHz band, the PTT [Posts and Telecommunications Administration] has decided to introduce a new system of so-called "cell-type" [cellulaire] public radiotelephony which will permit the reutilization of frequencies in different "cells." These new networks (at 400 MHz) will thus permit the driver of an automobile equipped with an automatic radiotelephone to remain hooked up during his movements throughout the country. The first cell-type network will be opened in Paris in 1983, with expansion to the provinces scheduled for 1984 and the following years. To this end, the DAI [Directorate of Industrial and International Affairs] has given Thomson-CSF [General Radio Company] a contract to study this cell-type system, entailing the development of a prototype system designed for the Paris area.

Automatic radiotelephony, which permits a person on the move to be connected with the international telephone network, has experienced rapid development during the last few years. At the end of 1979, some 4,288 subscribers were using this service offered by the telecommunications services in the principal French cities, such as Paris, Marseilles, Lyon, Lille, Bordeaux, Strasbourg and Toulouse, while other networks are installed in Nice and in the Rouen-Le Havre-Caen region. All these networks are operating on the 150 MHz band.

To meet increased demand, (17.7 percent in 1979 compared to the previous year), the Directorate of Foreign Network Telecommunications (DTRE) is establishing new networks, as in Paris in 1979 (where the number of links was increased from 188 to 203), Lyon, Bordeaux and Toulouse (8 supplementary links for each city).

Programs for the geographic expansion of the networks will also be started this year and in 1981, permitting extension of network coverage from Lille to Valenciennes and Calais, from Lyon to Macon, Valence, Saint-Etienne and Grenoble and Marseilles to Arles, Avignon, Montpellier and Toulon.

Interim 400 MHz System

All these networks operating at 150 MHz are approaching the saturation point, however. For that reason, the telecommunication services are preparing to use the 400 MHz band. The first radiotelephone network operating on this band will be opened in Paris at the end of this year. However, in a way this network will be one-of-a-kind.

In fact, this network will be offered as an "interim system" between the present generation (of the multicenter kind) and the future cell-type networks. Covering a greater area than the existing Parisian networks, this system will have eight transmission-reception stations and will offer 48 channels per section (four sections scheduled). This "interim" network at 400 MHz will be superimposed on the present 150 MHz networks: the subscribers will be hooked up with the former or the latter.

Moreover, the DTRE is preparing to offer a "multizone" service to subscribers at 150 MHz. This will permit mobile users traveling between two zones (Paris-Lille or Lyon-Marseilles, for example) to remain in permanent contact. However, this service will be limited to 10 persons per provincial city.

Study Contract to Thomson-CSF

However, the DTRE is principally concerned with installation of the radiotelephone networks of tomorrow, which will permit the servicing of all of France: present estimates call for 100,000 subscribers by 1990.

The number one problem in radiotelephony being the need for frequencies, it was decided that future networks will be of the cell-type, with authorization for reutilization of the same frequency in different "cells." These networks will operate in the 400 MHz band and later in the 900 MHz band.

The DAIL has awarded Thomson-CSF a contract for study of this cell-type system involving utilization of a prototype network capable of serving 3,000 to 5,000 subscribers in the Paris area. This first network will be placed in service in 1983 and will be extended to the provinces in 1984-1985.

The size of the cells will be adapted to the regions served (topology, population, etc.). The optimum size is about 15 erlangs per cell with a radius of 10-15 kilometers. The DTRE is making provision for the use of 2,000 transmission-reception stations with 160 links. The antenna input current will be 10 W; however, there are plans for the modulation of this current in Paris by remotely controlling the mobile user's current to 1-10 W.

The cells, which take the form of radio repeaters, will be connected through the commuted telephonic network to junction centers (a total of 10 for the whole country) set up on the basis of Thomson-CSF "MT-20" auto-commutators. These junction centers, which will also be interconnected by special links and perhaps by the "TRANSPAC" network, will exchange information to pick up the mobile user and send the communication to its addressee throughout the country.

To study the method of establishing communications more in detail, let us add that in each cell there will be call-up [veille] frequencies alongside the traffic frequencies. Every time a mobile user goes on the air or changes cell, he will transmit his call sign which will permit the junction centers to pick him up. And when the mobile user attempts to establish communication or is called, the junction center of the cell in which he is located will offer him a traffic link.

Thus, cell-type networks seem to be more flexible and efficient than the present networks, using only an optimal number of frequencies. The DTRE plans to use 160 channels in the provinces and 200-250 channels in Paris which will permit coverage of all of France.

Cell-type networks will have an effect on the prices of mobile transmitter-receivers. Greater production will permit the lowering of costs from the present 20,000-25,000 francs to about 10,000 francs. The new markets will be shared (in percentages to be established) between Thomson-CSF and SINTRA [?Automobile and Industry Furnishings and Supplies Company].

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WORLDWIDE REPORT: Environmental Quality
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WORLDWIDE REPORT: Telecommunications Policy, Research and Development

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